



Directorate of  
Intelligence

~~Secret~~

MICRO



CIA/ISOV

86-10015 X

(b) (1)

(b) (3)

## Gorbachev's Modernization Program: Implications for Defense



An Intelligence Assessment

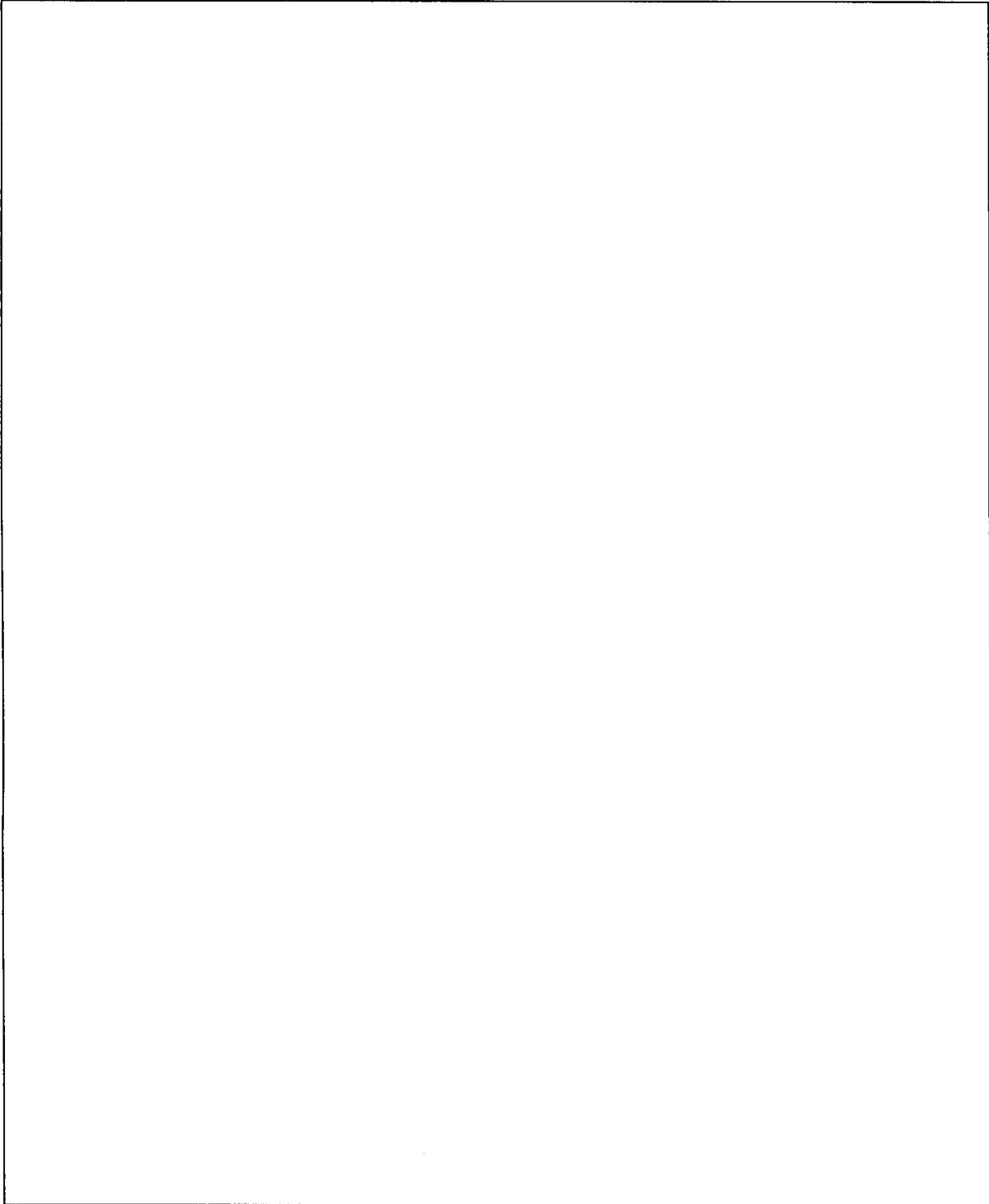
~~Secret~~

NOI 56-10015X  
Mar 8 1986

COPY 369

APPROVED FOR RELEASE  
DATE: OCT 2006

2 0 4 4



2 0 4 5

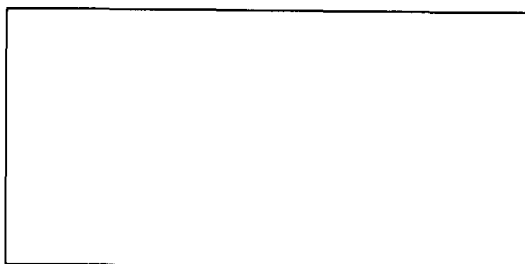


Directorate of  
Intelligence

~~Secret~~

## Gorbachev's Modernization Program: Implications for Defense

An Intelligence Assessment



(REVERSE BLANK)

~~Secret~~  
NOFORN  
May 8, 1986

2 0 4 6

~~Secret~~

**Gorbachev's Modernization Program:  
Implications for Defense**

**Key Judgments**

*Information available  
as of 1 February 1986  
was used in this report*

Soviet General Secretary Gorbachev has firmly established industrial modernization as a top priority. He and other Soviet leaders—including some senior military officers—have indicated that they believe this is the key to improved economic performance and to the USSR's ability to sustain the superpower status achieved through its military gains of the past two decades.

Gorbachev's plans call for boosting economic growth through massive replacement of outdated plant and equipment and an emphasis on high-technology industries. Both the general program goals he has laid out in public speeches and the investment targets set forth in the 1986 Annual Economic Plan would require record growth in the machinery allocated for modernizing Soviet plant and equipment. The machinery needed for industrial modernization is produced in the USSR in the machinery and metalworking sector—which is also the primary source of production of military hardware and consumer durables. Thus, Gorbachev's plans for refurbishing the country's industrial base will, of necessity, involve more heated competition with defense for many of the resources involved in the production of weapons.

In the near term, the Soviet defense establishment is well positioned to accommodate the shifts in machinery demand implied by the industrial modernization program. Since the mid-1970s, major investments in defense industrial facilities have resulted in a substantial expansion and upgrading of defense industry. During this period, especially large additions to capacity have been made in the missile, aircraft, and tank industries. As a consequence, most Soviet weapons expected to be delivered to the Soviet forces through 1990 will be manufactured in plants already built and operating. Indeed, serial production of most of these systems is already under way.

Competition for resources will be particularly intense, however, for some basic materials and some intermediate goods, such as high-quality steel and microprocessors, and for skilled labor—resources traditionally supplied on a priority basis to military production. This competition is likely to result in some trade-offs at the margin, causing defense plants to make some adjustments in their production schedules. Nevertheless, in view of the immense sunk costs for plant and installed equipment in the defense production facilities, and the fact that these cannot be readily converted to

iii

~~Secret~~

2 0 4 7

~~Secret~~

civilian use, the industrial modernization goals are unlikely to significantly impede the completion of the major deployments of strategic weapons that the Soviets have programed through the 1980s.

At this stage, Gorbachev's economic policies appear to command widespread political support both because of the consensus for the need to revitalize the industrial base and because defense procurement programs are largely unaffected in the near term. A number of senior military officers, moreover, have declared that industrial modernization is necessary if the USSR is to meet the technical challenge of the 1990s. The real test of Gorbachev's support will come in two or three years when renewed demands for expanding and renovating defense industries begin, as defense industries have to start preparing to produce new generations of weapons. How the Soviets are able to deal with their resource allocation problems then will depend on their success during the next few years in raising productivity, increasing the supply of advanced machinery, and building more modern industrial facilities. If the expected gains in productivity have not been realized, Gorbachev will have to deal with military leaders' asking for more defense investment and with advocates of devoting even more resources to modernization. On the other hand, if the industrial modernization is successful, the USSR would be in a substantially better position to meet the demands for more technologically advanced weapons.

In the meantime, Gorbachev appears to have settled on a foreign policy course designed to support his domestic economic agenda. We think it unlikely that the Soviets attach critical economic importance to an arms control agreement in the near term because the benefit to Gorbachev's industrial modernization plans would not be great over the next few years. But, by promoting a more relaxed atmosphere and a perception of arms control opportunities, Gorbachev probably hopes to encourage downward pressure on US defense spending and greater access to Western technology and trade credits. To the extent he is successful, his ability to maintain the momentum of the industrial modernization program will be enhanced when the pressure mounts for more investment in plant and equipment for defense later in the decade.

~~Secret~~

15

2 0 4 8

~~Secret~~

## Contents

	<i>Page</i>
Key Judgments	iii
Gorbachev's Inheritance	1
A Strong Military	1
A Troubled Economy	1
Gorbachev's Modernization Strategy	2
The Basic Elements	2
The 1986-90 Plan: Unclear Signals	3
The 1986 Plan: Emphasis on Modernization	4
Implications for Defense	5
Factory Capacity Available	6
Materials, Intermediate Goods, and Labor	6
Capitalizing on Sunk Costs	8
Industrial Modernization as a Key to Long-Term Military Requirements	9
Potential Problems in the Longer Term	9
The Foreign Policy Angle	10
Future Decision Points	11

(REVERSE BLANK)

~~Secret~~

2 0 4 9

**Gorbachev's Modernization  
Program:  
Implications for Defense**

**Gorbachev's Inheritance**

**A Strong Military**

Since 1964, when Brezhnev came to power, Soviet defense outlays have increased in real terms every year. During 1965-75, for example—a period during which US defense spending declined in real terms—Soviet military expenditures increased by nearly 50 percent. Even in the following decade, when US defense spending started to pick up, cumulative Soviet defense outlays exceeded those of the United States by more than 25 percent, or almost \$500 billion (see figure 1).

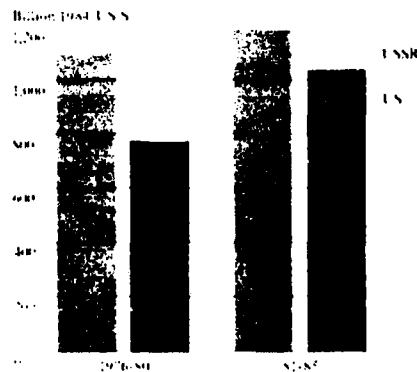
Moscow's massive commitment of resources to defense has been reflected in its procurement of military hardware. Since 1973, Soviet strategic forces have received 3,500 ICBMs and SLBMs, more than triple the US number. Similar sweeping improvements occurred in Soviet conventional forces, where the USSR added large numbers of modern fighters, bombers, and tanks. (See table 1 for a comparison of selected military hardware procured by US and Soviet military forces during 1974-85.)

These sustained, large-scale purchases of military hardware were made possible by the rapid growth in the Soviet defense-industrial base. In the early 1970s, the USSR stepped up the retooling of many of its existing defense plants and built entirely new production facilities to accommodate advanced special-purpose tooling and equipment. This expansion in capacity and technology supported production of a new generation of significantly more advanced weapons.

**A Troubled Economy**

In contrast with the USSR's enormous military might, the economy Gorbachev inherited had experienced a decade of slowing growth punctuated by harvest failures, labor and energy shortages, and

**Figure 1  
Estimated Dollar Cost of US and  
Soviet Military Programs, 1976-85**



absolute declines in productivity (see figure 2). Although better weather and increased labor and management discipline helped improve performance after 1982, the antiquated nature of the USSR's industrial base made sustained improvements unlikely. (According to one unofficial Soviet estimate, the stock of machinery and equipment was 20 years old on average.) Gorbachev's predecessors themselves had argued that, without an acceleration in productivity growth, the USSR would have trouble meeting the demand for resources for defense, investment, and consumption.

~~Secret~~

Table 1  
U.S. and USSR: Procurement of  
Major Weapon Systems, 1974-85

	U.S.	USSR
ICBMs and SLBMs	1,050	3,500
IRBMs and MRBMs	160	750
Surface-to-air missiles	11,700	106,000
Long- and intermediate-range bombers	8	100
Fighters	4,050	7,800
Helicopters	2,050	6,100
Submarines	44	114
Major surface combatants	98	88
Tanks	8,400	25,900
Artillery	2,200	22,000

\* These numbers represent gross additions to weapons inventories and do not reflect retirements because of obsolescence or SALT restraints.

Soviet leaders were especially concerned that the USSR would continue to trail in military technology. In 1982, then Chief of the General Staff Ogarkov warned that, without industrial modernization, the USSR's technical capabilities would continue to lag behind those of the West and that the Soviet armed forces would find it harder to meet their military responsibilities.

Thus, one of Gorbachev's principal challenges as General Secretary was to find the resources to upgrade the country's industrial base without surrendering the military gains of the past 20 years. In fact, Gorbachev probably was chosen to be General Secretary in part because of the belief among certain of the Soviet elite that he was the best man to bring about a resurgence of broad-based economic growth.

#### Gorbachev's Modernization Strategy

##### The Basic Elements

Gorbachev has focused his efforts squarely, and in our view correctly, on increasing productivity. His first and most accessible target in his campaign to boost productivity was what he dubbed the human factor, which led to the campaigns for discipline and against corruption and alcoholism. Some of these efforts actually were begun under Andropov, and, although they were scaled down during the Chernenko interregnum, they have yielded results. Soviet press statements indicate, for example, that there has been a marked decrease in absenteeism, fewer industrial accidents, and less shoddy work.

Gorbachev also has replaced a great many senior economic managers with people more receptive to his policies and has shifted several top officials with proven track records in the defense industries to key civilian posts. And, in an attempt to root out bureaucratic inertia, he has begun to push through organizational measures, including the establishment of a high-level bureau to oversee civilian machinery production. These changes are reflected in our own measures of Soviet industrial production, which show an upturn in the rate of growth of output and an even more marked recovery in productivity growth.

Gorbachev has stressed, however, that the success or failure of his economic program over the longer term will depend on fundamental improvements in the country's production base or, in his own words, "the structural transformation" of the economy. In laying out his program last summer and fall, Gorbachev proposed

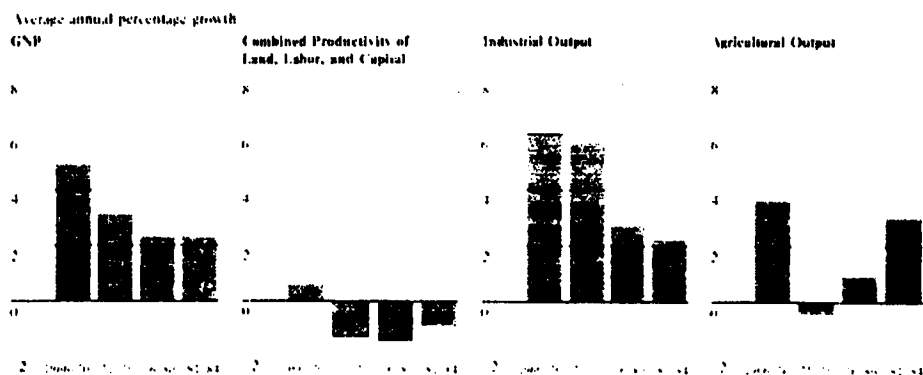
- Doubling retirement rates of capital stock to accelerate the replacement of obsolete capital by more efficient machinery
- Modernizing the nation's stock of plant and equipment so that by 1990 a third of it, including up to half of the machinery portion, is new. (Meeting this

2 0 5 1



SECRET

**Figure 2**  
**USSR: Trends in Key Economic Indicators When**  
**Gorbachev Took Over**



SECRET

target for machinery renewal would require an annual rate of growth of 15 percent or more in the machinery portion of new fixed investment.)

- Increasing capital investment in civilian machine building in the period 1986-90 by 80 percent over that of 1981-85. [ ]

The qualitative side of Gorbachev's strategy emphasizes development of the industries that provide the advanced equipment for industrial modernization especially machine tools, robots, flexible manufacturing systems, microelectronics, and computers. In his 11 June 1985 address to a special conference on science and technology—one of his first major speeches after becoming General Secretary—he called for "revolutionary changes" in the country's approach to technology and its use in industry. He stressed that research and development (R&D) institutes must concentrate more on applied research, declaring that the "major weakness of industrial science is its isolation from production." [ ]

#### The 1986-90 Plan: Unclear Signals

The draft economic guidelines for 1986-90 that were issued in early November 1985 set ambitious targets, but the goals were not as high as those implied earlier by Gorbachev. GNP is slated to grow at roughly 3.5 percent per year in 1986-90 and about 5 percent per year in 1991-2000, rates not achieved in more than a decade. [ ]

Industry, agriculture, and other producing sectors will be hard pressed to meet the targets in the five-year plan (FYP). According to the FYP guidelines, investment is slated to rise by only about 3.5 to 4 percent per year—the same as GNP. The investment target is above the rate of recent years, but it is clearly

The Soviets do not publish a target for GNP, which is a Western concept. Rather they use a Marxist concept of national income that excludes depreciation, as well as wages in most services. To convert their national income target to a GNP goal, we add on an estimate for the growth of the service sector. [ ]

2 0 5 2

~~Secret~~

insufficient to meet Gorbachev's stated goals for increasing investment in the machinery sector while taking care of other critical sectors such as energy, transportation, and ferrous metallurgy. To meet the plan goals, the guidelines call for sharp increases in productivity - increases far greater than those achieved during the past two FYPs - and also establish what seem to be unrealistic goals for energy and raw material savings. [ ]

The reason for the low investment target in the 1986-90 Plan is unclear. The fact that Gorbachev remanded the draft guidelines at least three times before they were issued and that no investment data were given, other than the overall growth target, strongly suggests that the issue of resource allocation was a difficult one. Gorbachev may have faced opposition from economic planners - many of whom have been or may soon be replaced - who were worried that the economy could not produce the investment goods needed to meet Gorbachev's modernization goals and at the same time achieve targets for military procurement and output of consumer durables; he may also have been opposed by managers in sectors that were not favored by the plan. Support for such a position could have come from some members of the military out of concern that establishing a higher investment target would result in an unacceptable squeeze on military procurement. [ ]

#### **The 1986 Plan: Emphasis on Modernization**

Whatever the reason for the low investment target given in the published 1986-90 guidelines, Gorbachev made sure that investment support for modernization was on center stage in the 1986 annual plan that was issued three weeks later. The 1986 growth target for new fixed investment is 7.6 percent - twice the average annual rate specified in the plan for the 1986-90 period as a whole. Within the total for new fixed investment, investment in civilian machinery to meet the machinery output goals is slated to grow by a whopping 30 percent. Moreover, in apparent contrast to Gorbachev's previous statements that the share of investment in energy would be held constant, the 1986 plan calls for investment in oil extraction to grow by

31 percent, in the coal sector by 27 percent, and in the electric power sector by 24 percent. [ ]

It is not clear whether the machine-building and metalworking (MBMW) sector will be able to meet all of the demands placed on it to support the modernization goals as well as the Energy and Food Programs while at the same time satisfying the requirements for consumer durables and military hardware, the other two major claimants on the sector's output. According to our estimates, achieving the growth targets for investment goods alone would require an additional 10-11 billion rubles of machinery supplies in 1986 - the largest machinery increase ever planned. [ ]

By reducing the stock of uninstalled equipment and the backlog of unfinished construction, and by increasing machinery imports from the industrial West and Eastern Europe, the Soviets are probably hoping to obtain new plant and equipment without relying exclusively on domestic production. Success in accelerating capital assimilation would give a one-shot boost toward meeting equipment modernization goals. For example, pronounced success in reducing the stock of uninstalled equipment might free 2-3 billion rubles of new machinery. Once the surplus stocks have been mobilized, however, inventory drawdowns are no longer a source of additional machinery. Some increase in machinery imports is also certain. But the absolute gains will not be large compared with Soviet needs because of the leadtimes involved in contract negotiations with Western suppliers, the deterioration in the U.S.S.R.'s hard currency position, and the reluctance of East European countries to provide the machinery they need at home. [ ]

Whether the powerful start the 1986 Plan gives to the modernization program will be sustained throughout the five-year period is still questionable. If the Soviets stick to the investment target in the draft guidelines and if investment in 1986 grows at 7.6 percent as planned, investment during 1987-90 would have to grow at only 2.5 to 3.0 percent per year to meet the 1986-90 Plan target. A cutback to these levels in the late 1980s is unlikely, however; investment rising at this rate would not support industrial modernization

~~Secret~~

~~Secret~~

on the scale Gorbachev has been talking about. Moreover, if he comes reasonably close to achieving his 1986 target, it would be uncharacteristic of him to back away from his modernization program in 1987-90. [redacted]

The apparent disconnect between the 1986 Plan and the 1986-90 Plan may have been a consequence of the fact that by last summer - by the time Gorbachev had completed a number of key personnel changes and announced the basic programmatic goals - the draft of the 1986-90 Plan was already in a relatively late stage of preparation. Although he repeatedly remanded the draft FYP, he may have concentrated his efforts - insofar as specific performance targets were concerned - on the 1986 Plan, in the belief that he would have further opportunities to push through adjustments to the five-year targets. One clue to his thinking in this regard may have been the specific criticism he voiced publicly in September - that he was remanding the draft because, among other things, it did not set the initial year targets high enough. [redacted]

#### Implications for Defense

Gorbachev's plan for refurbishing the country's industrial base through the massive replacement of machinery and equipment will certainly involve increased competition with the defense sector for many of the resources used in the production of weapons. We do not know how far he will go in emphasizing modernization of civil industry as opposed to defense industry, but we have good evidence that the Soviets are aware of the heavy resource constraints that defense requirements place on the modernization program [redacted]

[redacted]

In the past, Soviet officials have made only infrequent references to constraints imposed on economic growth by defense requirements. Usually, they have gone out of their way to disabuse Washington of the notion that they need arms control for economic reasons. Some of the recent statements were obviously intended to come to the attention of the United States and the West Europeans during the arms control negotiations and, in the weeks before the November 1985 summit, probably to spread the idea that Gorbachev was holding off pressure from hardliners and that the United States needed to make concessions to help him - a longstanding Soviet tactic. [redacted]

The competition will be particularly intense in the MBMW sector, which has traditionally borne a large portion of the defense burden. In recent years, we estimate that about 25 to 30 percent of MBMW output has been going to the military. The competition for resources used in MBMW will take place on several fronts:

- *Factory Capacity.* Implicit in Gorbachev's call for increased output of advanced machinery is the

[redacted]

The meaning of "diversion" is ambiguous in this reporting. In the context of the 1986-90 Plan, it could well mean a change in how additional resources are allocated - i.e., new investment, new entries into the industry, and the like - or not.

~~Secret~~

2 0 5 4

~~Secret~~

competition in the absence of rapid plant expansion for modern workspace at production facilities. In this connection, robots, computer-numerically-controlled machine tools, computer-aided design systems, flexible manufacturing systems, and other highly automated manufacturing systems are important for the production of both the advanced manufacturing equipment needed for boosting industrial productivity and sophisticated weapon systems.

- **Basic Materials.** Chemicals and metals are used in producing both weapons and advanced machinery. Industrial ministries that produce these products have recovered somewhat from their poor performance in the late 1970s and early 1980s but are still not meeting production targets.
- **Intermediate Products.** Engineering plastics, advanced composite materials, electronic components, and microprocessors are in high demand in the defense industry and, as modernization proceeds, will be needed increasingly by civil industry as well. These products, however, are in short supply.
- **Labor.** Both the defense industry and civil industry require highly skilled workers, particularly computer technicians and software engineers. ☐

#### **Factory Capacity Available**

Competition for factory floorspace and investment goods in the *short run* has been mitigated by the substantial expansion and upgrading of defense-industrial plants that has taken place since the mid-1970s. The first indications of comprehensive programs to modernize weapons production facilities occurred in the tank and aircraft industries during the early 1970s. Industrywide efforts to reequip weapon assembly plants accelerated in the late 1970s, and we believe a large portion of the best domestically produced machinery was delivered to defense industry during this period. In addition, the defense sector was helped by a surge in clandestine and open acquisition of Western manufacturing equipment. Floorspace in the defense industries continues to increase, although not at the rate of recent years. ☐

As a result of this investment in defense industry, almost all of the production capacity required to support Soviet force modernization through the rest of the decade is already in place. Our calculations suggest, for example, that almost no additional investment in plant and equipment is needed to manufacture the military hardware that we believe will be produced in 1986-88. Thus, military production would not be constrained in the near term by a reallocation of new fixed investment in favor of civilian MBMW and other priority sectors. Shifting the employment of equipment in plants that produce both defense and nondefense goods from defense to civilian output would be difficult and costly, and would have only a small impact on defense output. Even in the longer term, roughly 85 percent of the capacity required to turn out the military equipment projected to be produced in 1991 was available at the end of 1985. Some investment in defense industry, moreover, will no doubt continue, adding new capacity with greater capabilities. ☐

#### **Materials, Intermediate Goods, and Labor**

While the Soviets have the production capacity to maintain or even increase the current level of weapons production, the high targets for civilian machinery will spur competition for labor and material inputs used in the production process. Some trade-offs are likely at the margin between military and civilian production. The nature of this competition is shown in table 2, which gives our judgments on particular resources: the degree to which they are needed in civilian MBMW, their availability in non-MBMW sectors of the economy, and the ease with which they could be shifted from defense industries to civilian MBMW. ☐

High-quality steel and energy, for example, will be in great demand to manufacture machines needed for both industrial modernization and weapon production. The high targets the Soviets have set for machinery production will place strenuous demands on the ferrous metals branch, an industry that has been doing

~~Secret~~

2 0 5 5

~~Secret~~

**Table 2**  
**USSR: Military-Civilian Competition for Resources**

	Degree of Need in Civilian MBMW Sector for Modernization	Availability Outside MBMW Sector	Technical Transfer- ability From Military to Civilian MBMW	Comment
<b>Materials</b>				
Basic raw				
Energy	Medium	High	High	
Intermediate				
Chemical feed stock	High	Medium	Medium to high	
Engineering fibers	High	Low to medium	High	
Microelectronics	High	Low	High	In very short supply in both sectors
Specialty steel	Medium to high	High	Medium to high	
Aluminum	Medium to high	High	High	
Titanium	Low to medium	Low to medium	Medium	
Construction materials	Medium	High	High	
<b>Intermediate products</b>				
Conventional				
Electric motors	Medium to high	Low	Medium to high	
Diesel engines	Medium to high	Low	Medium to high	
Advanced				
Engineering plastics	High	Low to medium	High	In short supply
Microprocessors	High	Low to medium	High	
Composites	Medium	Low to medium	Medium	
Microelectronic components	High	Low	Medium	
<b>Manpower</b>				
Computer programmers software analysts	High	Low to medium	High	Shortage exists throughout economy
Electronics technicians	High	Low to medium	High	
Machinists	Medium	Low to medium	High	
Industrial engineers	Medium	Low to medium	High	
<b>Transportation</b>				
Railroads	Medium	High	High	
Trucks	Medium	High	High	
Machine building and metalworking				

~~Secret~~

2 0 5 6

Secret

poorly in recent years and apparently is slated to receive little, if any, increase in investment during the 12th FYP. The energy situation, meanwhile, is likely to be tight even though investment in the sector is climbing. [ ]

The competition for human resources could be even more intense. Extensive underemployment exists in the Soviet economy, and Gorbachev may hope he can support his modernization program by mobilizing currently underemployed engineers and labor. But shortages of skilled workers persist in the USSR in several areas critical to both defense and modernization—for example, systems analysts and, to a lesser degree, computer programmers and some kinds of engineers and skilled machinists. The most immediate source of additional specialists for civil machine building is a reallocation of the employees working on the defense side of MBMW. [ ]

#### Capitalizing on Sunk Costs

In view of the massive investment already made in defense plant capacity and the powerful precedents of military priority against the near-term requirements of civilian MBMW, we believe that the Soviets will move ahead with most of the military modernization that the Intelligence Community has projected through the 1980s. As noted in this paper, nearly all of the major systems expected to be delivered to the forces in the next several years already are being built on fully equipped final assembly lines. The Blackjack bomber, the SU-27 fighter, the SS-25 ICBM, and the T-80 tanks, for example, have all entered production, and, although the SS-X-24 ICBM is not yet in production, the necessary capacity is ready and the production machinery installed. [ ]

Competition for basic materials, intermediate goods, and skilled labor might cause the pace of production of some of these new systems to be somewhat slower and the date of introduction somewhat later than the Soviet military would prefer. Even allowing for such delays, however, the USSR can proceed with its strategic and general purpose programs over the next several years—whether the annual rate of procurement spending grows a little or even declines. For example, table 3 compares 1981-85 production of major weapon systems with representative levels of

Table 3

USSR: Procurement of Selected Weapon Classes

	Estimated 1981-85	Possible 1986-90
ICBMs	310	540
Submarines	41	90
Tanks	12,500	18,000
Fighter aircraft	2,400	2,000
Helicopters	2,500	2,000
Strategic bombers	200	210

Although our projections suggest lower overall numbers in these categories, the fighters and helicopters the Soviets will procure during 1986-90 are more complex, capable, and costly than those purchased during 1981-85. [ ]

production of the same systems that are feasible over the next five years if procurement spending grows at an average annual rate of less than 1 percent. The specific mix of weapons may be somewhat different—some higher, some lower. Nonetheless, taking into account the sunk costs and the momentum of ongoing programs, we believe these figures reflect the general level of procurement that will occur during the 1986-90 period. [ ]

At these general levels of production, improvements to Soviet strategic forces will be substantial. New generations of land- and sea-based ballistic and cruise missiles recently have entered or will soon enter production. As a result, a comprehensive modernization of the USSR's strategic offensive forces should be completed by the early 1990s. Strategic defense force improvements, although less substantial, also will permit sustained improvements in capabilities. After trouble-plagued development, strategic defense missiles like the SA-10 and SA-X-12 are entering or will soon enter the inventory. [ ]

Conventional forces will undergo a similar upgrade. Two late-generation fighters, the MIG-29 and SU-27, are entering the inventory, while new submarines and

2 0 5 7

warships including the USSR's first full-sized aircraft carrier are improving naval capabilities. Meanwhile, a variety of improved land arms (most notably the T-64B and T-80 tanks) are being deployed to the Ground Forces. [ ]

#### **Industrial Modernization as a Key to Long-Term Military Requirements**

Thus, Gorbachev can coast for a few years on the strength of the USSR's past investment in its military industrial complex without substantially impinging on the USSR's strategic and conventional modernization programs. Barring a major change in the foreign threat, the military probably will support despite some rumblings Gorbachev's basic program. This support probably is due partly to the unlikelihood that it would interfere significantly with the strategic modernization programs now under way. In this regard, according to a Soviet source, Gorbachev reportedly reached an accommodation with the military. In return for its support, Gorbachev reportedly gave assurances that certain programs would be unaffected and committed himself to extensive modernization of facilities for aircraft, naval ships and submarines, and other advanced weapons. This report, however, does not address the issue of whether such modernization activities represent any change in recent levels of investment. [ ]

At least equally important, the military stands to be a major beneficiary of industrial modernization. An example of the military perspective was contained in an article in the October 1985 issue of *Kommunist voruzhennykh sil* by Major General Vasykov:

*Today what is required for serial production of contemporary weapons and the newest combat equipment is not conventional or ordinary equipment but the most contemporary and frequently unique equipment, including fundamentally new instruments, computer-controlled machine tools, robot equipment, the latest generation computers, and flexible production systems. In other words, a high level of development of these branches of industry with the best prospects, with the most contemporary technology, and with a highly qualified work force. [ ]*

The much more capable and complex weapon systems that the USSR will want to deploy in the mid-1990s and beyond for which plant construction and retooling must be initiated later in the 1980s will depend on dramatic improvements in Soviet manufacturing technologies. Weapons to be introduced in the mid-1990s will use more sophisticated guidance, sensor, computer, and communications subsystems, which in turn require advanced microelectronics design, fabrication, and testing capabilities. Many of these weapons such as new-generation fighters will use materials and structures that require computer-aided design and manufacturing capabilities that the Soviets are just beginning to introduce. In short, if Gorbachev's modernization plan pays off in greater production of better equipment and in higher productivity in the sectors using MBMW products by the late 1980s, the USSR will be in a better position to satisfy both military and civilian demands. [ ]

#### **Potential Problems in the Longer Term**

In the immediate future, any controversy that exists within the civilian and military leadership regarding the industrial modernization plan does not appear sufficient to challenge Gorbachev politically or to derail his plans. He commands a dominant position in the Politburo, and remaining critics are on the defensive. A key political move to establish control of the military establishment was Gorbachev's selection of a new secretary (appointed to the Politburo at the Party Congress) to oversee defense industry, replacing his former rival Grigoriy Romanov. [ ]

The need for industrial modernization to bolster future defense capabilities also has been addressed by veteran political leaders. Early this year, for example, President Andrey Gromyko told a Western visitor in a private conversation that the basis of a strong defense is the economy and that, consequently, the USSR has

~~Secret~~

made the modernization of the Soviet economy its first priority.

The political risks are likely to mount, however, as the demand for new investment for defense plant and production equipment rises in the late 1980s and early 1990s, when the Soviets will have to begin tooling up for the next generation of weapons. Unless Gorbachev's efforts to modernize industry pay off in greater numbers of more advanced, high-quality equipment and in substantially increased productivity, the battle between civilian and defense interests will become more severe. The military may be prepared to cope with the effects of more internal competition for basic materials and skilled labor as long as the defense-industrial base exists to support ongoing programs and modernization enhances the technological capabilities of military industry. But major new weapon programs will require new production machinery. At that juncture, the objectives of industrial modernization could increase pressures to postpone certain major defense initiatives — an option almost certain to be unpalatable to a significant portion of the military and political leadership.

Indicators of Gorbachev's ability to continue to give priority to the industrial modernization program

could begin to appear within the next year or two. These might include:

- Changes in defense-industrial capacity: Shifting existing defense capacity to civilian output would indicate a strong push for meeting consumer-durable targets to support labor productivity goals. Large additions to defense capacity, on the other hand, would indicate that industrial modernization was taking a backseat to defense modernization.
- Major shifts in procurement of military hardware: These are considered highly unlikely in either direction but would be a particularly strong indication of the course of Gorbachev's program.
- Altering investment targets: Backing off could suggest the program was in trouble, while scaling investment growth up would indicate great momentum behind it.

#### The Foreign Policy Angle

Gorbachev's foreign policy strategy of reengagement with the United States appears designed to create an environment favorable to his domestic economic strategy, and may even be aimed at neutralizing his potential political opposition. By promoting a more relaxed atmosphere and a perception of arms control opportunities, Gorbachev almost certainly hopes to encourage downward pressure on US defense spending. US-Soviet talks also advertise to the Europeans that the "new Soviet leadership" genuinely wants to reduce East-West tensions and that the growth and modernization of the Soviet economy take precedence over military might. Gorbachev probably believes that an improved dialogue will bring about greater access to Western technology and credits.

We think the USSR recognizes that the near-term economic benefits to Gorbachev's industrial modernization plan from an arms control agreement would

~~Secret~~

10

2 0 5 9



~~Secret~~

not be great. Much of the plant and machine tools already committed to the new strategic systems could not be readily transferred to civilian machine building. Strategic weapons absorb fewer raw materials and are less labor intensive than ground force weapons, for example, while the high-technology production resources devoted to strategic nuclear systems could be transferred only gradually to civilian purposes. [ ]

Gorbachev and his planners were formulating their economic targets and guidelines before the summit took place, and the basic decisions on economic resources almost certainly were not made contingent on the summit or on the expectation of a major breakthrough in arms control. Decisions on military production through the next several years would have to have been made in the context of overall industrial production targets. [ ]

The arms control proposals emanating from Moscow, in fact, appear to have been designed to permit the USSR to proceed with strategic modernization. The limits they prescribe for intercontinental launchers and reentry vehicles appear tailored to accommodate the new Soviet ICBMs and SLBMs for which production lines already exist, and the lower totals could be achieved by removal of the large number of older, mainly silo-based ICBMs and some aging and less capable earlier generation ballistic missile submarines. [ ]

Over the longer term, a comprehensive arms control agreement, especially an accord that included sizable reductions in strategic forces and prevented or delayed deployment of a US SDI program, would provide substantial economic benefits in the USSR. Reductions in deployed forces would enable the Soviets to save material and labor, and even greater savings would accrue if the agreements allowed the Soviets to forgo or postpone the investment in plant and equipment for production of new weapon systems [ ]

In the meantime, Gorbachev is likely to continue to play to heightened Western expectations regarding arms control and general political/economic relations with the Soviet Union. If this policy is successful, he will be in a stronger position to maintain the momentum of his industrial modernization program when the pressure for investment in plant and equipment for defense programs becomes more intense later in the 1980s. [ ]

#### Future Decision Points

Gorbachev faces considerable risks down the line in implementing his modernization program. If he tries to carry out the program without raising overall investment growth in 1987-90, the impetus to growth based on the 1986 Plan is likely to trail off after a few years, leaving the shortages and disproportions characteristic of an unbalanced plan. In addition, short-changing the energy sector after 1986, particularly oil, could result in a further sharp decline in production. In 1985, falling oil prices and decreased sales to the West precipitated a \$3.5 billion drop in hard currency earnings, and a decline of the same magnitude is possible this year. Unless the USSR is willing to underwrite Western imports through massive borrowing - which seems unlikely - Moscow may be forced to reduce imports of state-of-the-art technology for its modernization program. [ ]

To forestall such a situation, Gorbachev could decide to reverse directions and raise investment toward the end of the 12th FYP by trying to curb the military's demand for machine-building output and R&D resources. Under such a scenario, the military might become restless, while waiting for the deferred improvements in the technological base of military industry. Alternatively, Gorbachev could free machinery for the modernization program by reducing the resources committed to consumer-durables production or the Food Program or by demanding more imports from Eastern Europe. Scaling down resources for the consumer might be especially attractive if better-than-average weather over the next few years resulted

~~Secret~~

2 0 6 0

~~Secret~~

in unexpected gains in agricultural output. In the absence of such an upturn, however, hopes for eliciting greater work effort would probably plummet as general disillusion set in, with the population seeing Gorbachev as no more effective than Brezhnev or Chernenko.

Rather than increase investment resources, Gorbachev might seek to spur productivity through other policy initiatives. He could, for example, permit selective legalization of private-sector activity, particularly consumer services. This would indicate willingness to depart from economic orthodoxy in order to improve consumer welfare and thereby economic performance. In addition, although Gorbachev has taken a conservative approach to reform measures so far preferring to work within the system some of his advisers have indicated that he might be willing to introduce bolder measures once his political support has been solidified.

In sum, major adjustments will have to be made in Soviet economic policies if Gorbachev hopes to achieve his economic objectives. Nonetheless, given the political risks that some of these policies might involve, Gorbachev may well stick to his present strategy as long as at least some progress is being made toward his industrial modernization goals. We do not know how much plan fulfillment would be enough over the next few years to avert substantial changes in resource allocations or other policies; but Gorbachev, by virtue of the personnel changes he has already made (as well as those that appear to be in the works), probably will be in a good position to declare his program a "success," even if the returns are only moderate.

~~Secret~~

2 0 6 1